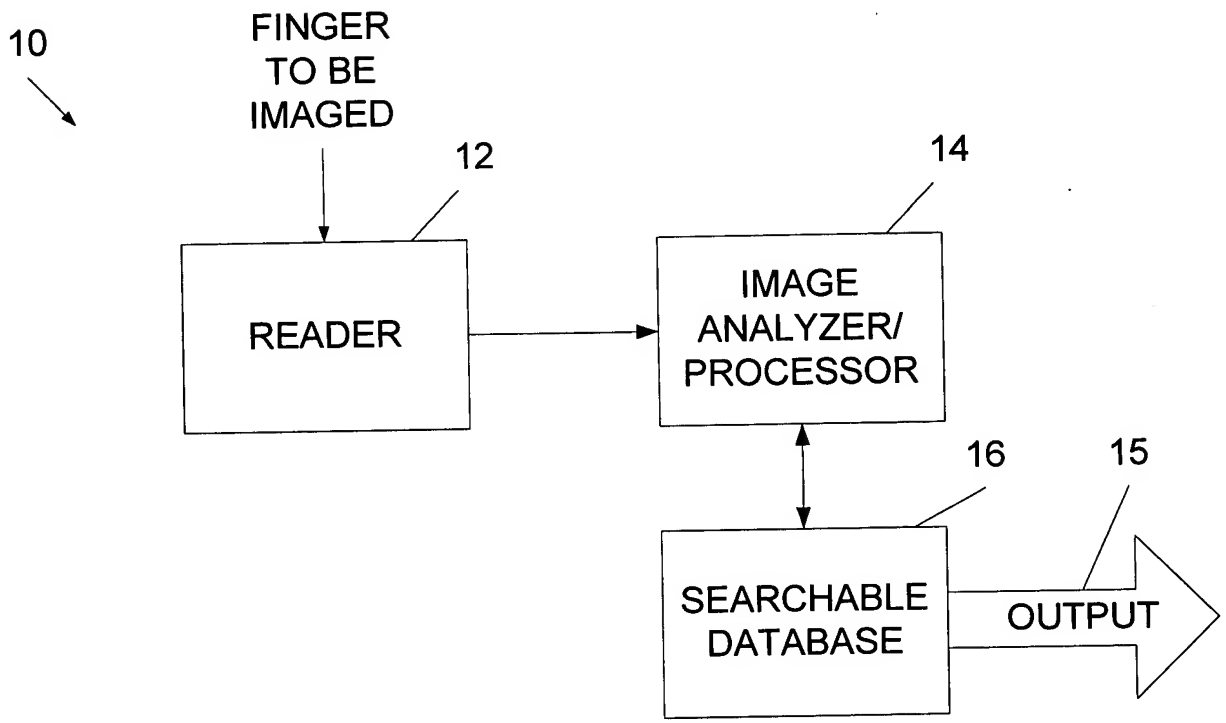
10
FINGER
TO BE
IMAGED
12
14
READER
IMAGE
ANALYZER/
PROCESSOR
16
15
SEARCHABLE
DATABASE
OUTPUT

FIG. 1

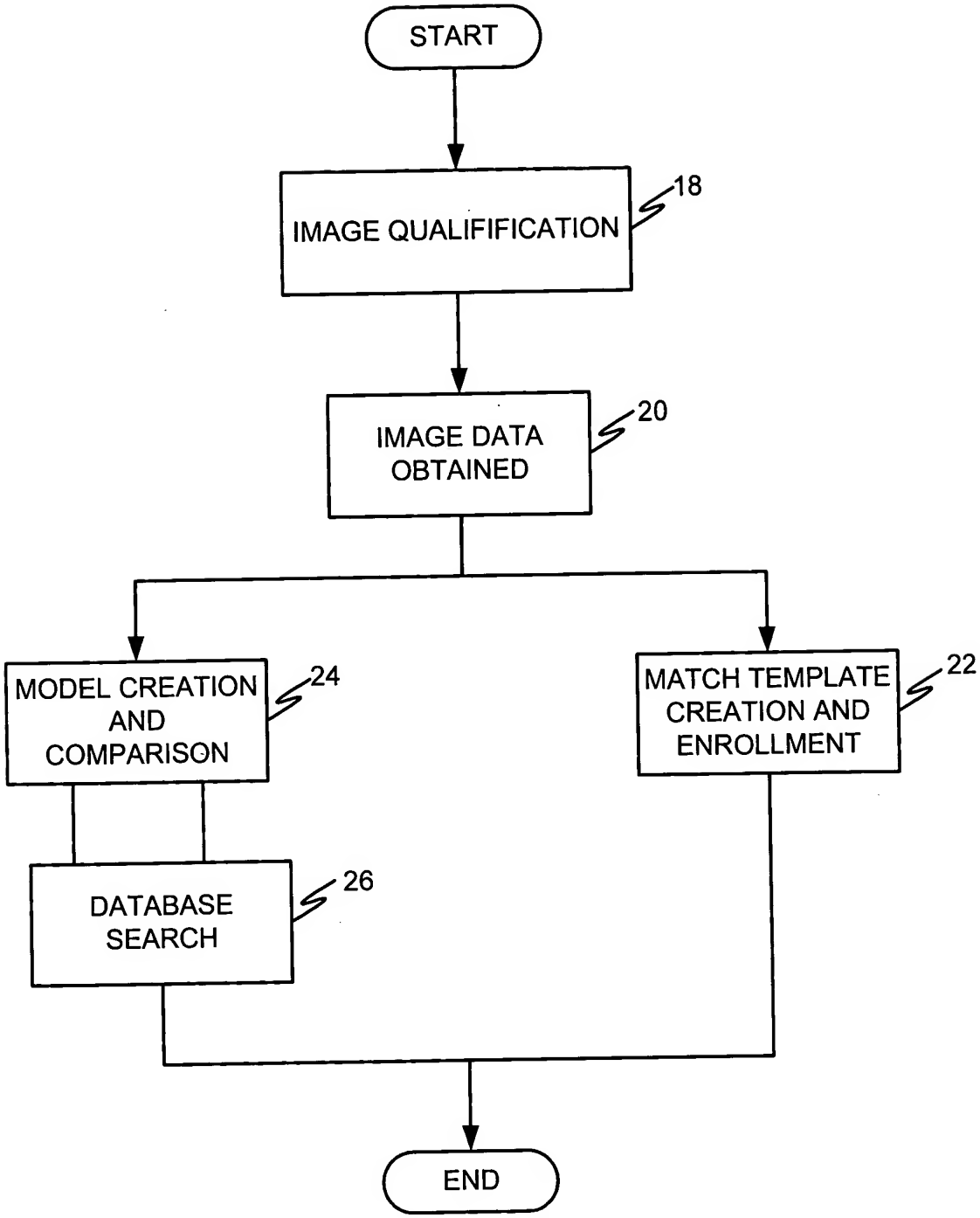
START
IMAGE QUALIFICATION
18
IMAGE DATA OBTAINED
20
MODEL CREATION AND COMPARISON
24
MATCH TEMPLATE CREATION AND ENROLLMENT
22
DATABASE SEARCH
26
END

FIG. 2

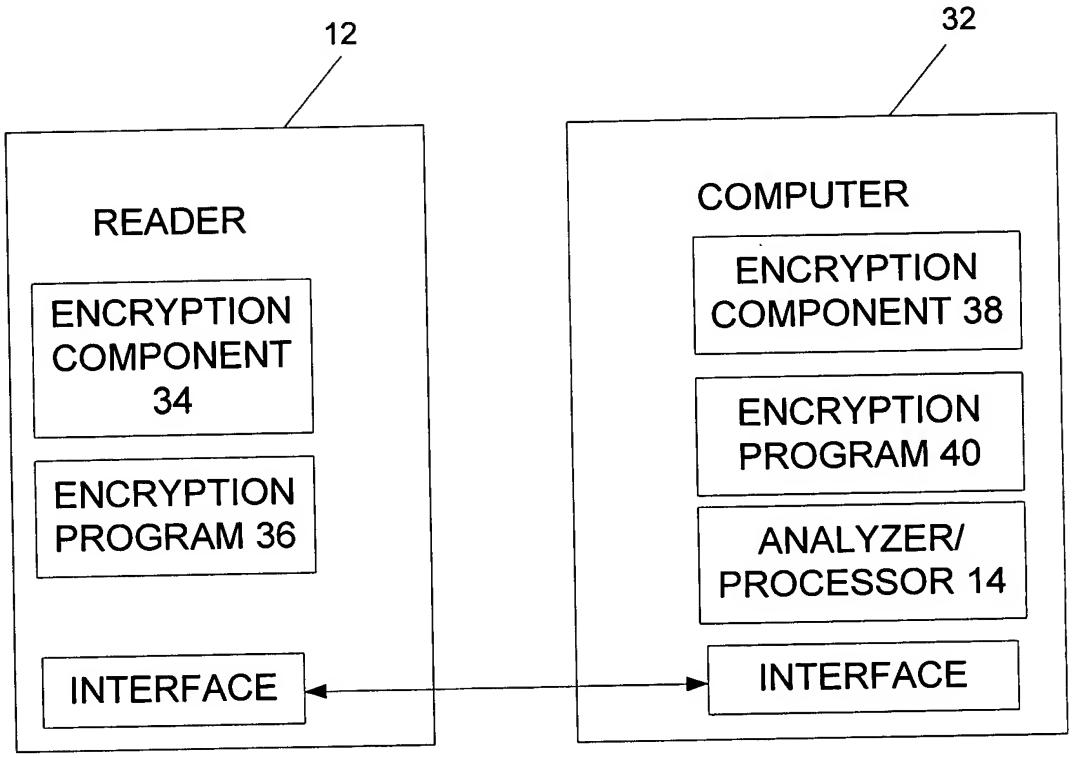
12
32
READER
ENCRYPTION COMPONENT 34
ENCRYPTION PROGRAM 36
INTERFACE
COMPUTER
ENCRYPTION COMPONENT 38
ENCRYPTION PROGRAM 40
ANALYZER/ PROCESSOR 14
INTERFACE

FIG. 3

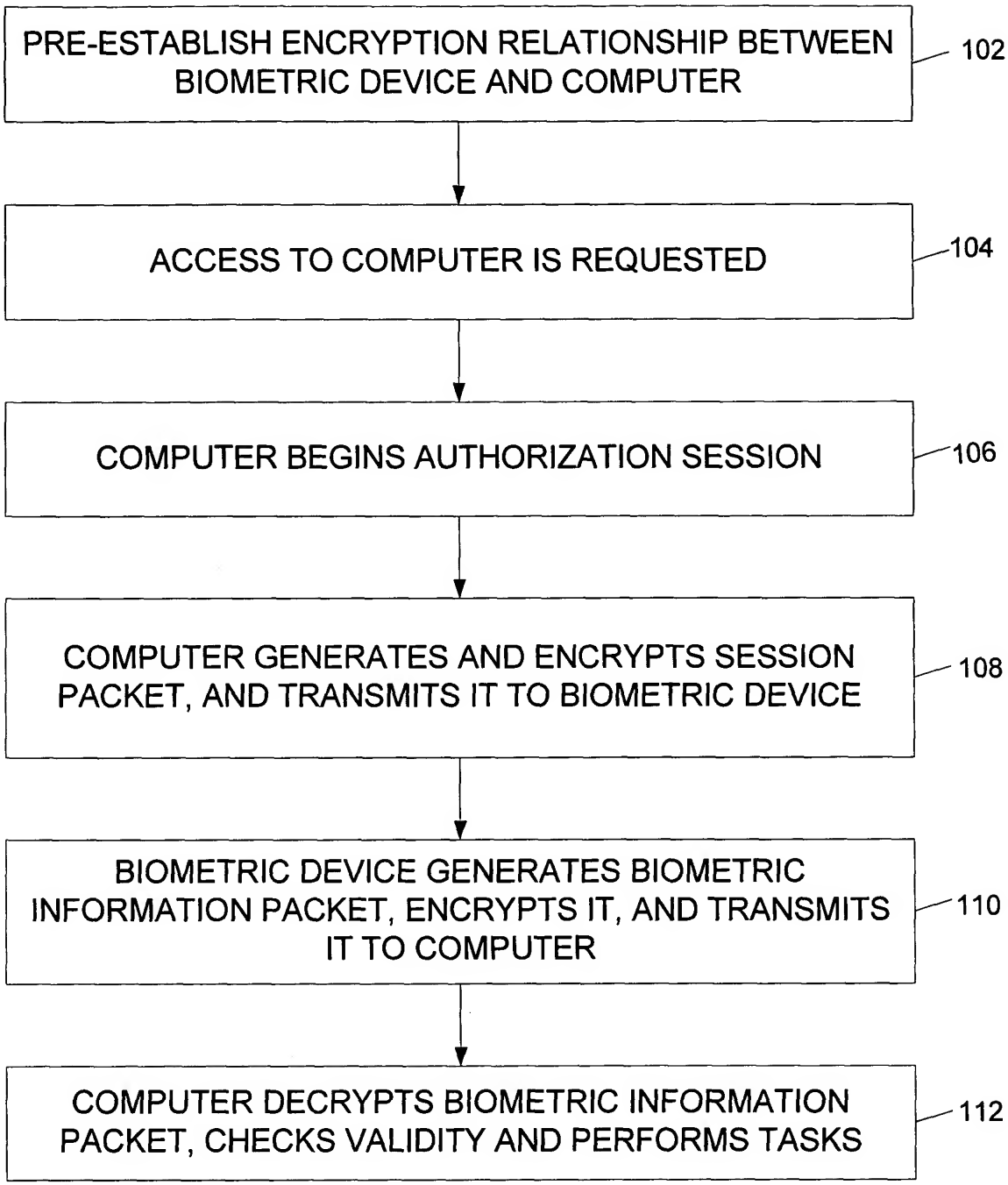
PRE-ESTABLISH ENCRYPTION RELATIONSHIP BETWEEN BIOMETRIC DEVICE AND COMPUTER
102
ACCESS TO COMPUTER IS REQUESTED
104
COMPUTER BEGINS AUTHORIZATION SESSION
106
COMPUTER GENERATES AND ENCRYPTS SESSION PACKET, AND TRANSMITS IT TO BIOMETRIC DEVICE
108
BIOMETRIC DEVICE GENERATES BIOMETRIC INFORMATION PACKET, ENCRYPTS IT, AND TRANSMITS IT TO COMPUTER
110
COMPUTER DECRYPTS BIOMETRIC INFORMATION PACKET, CHECKS VALIDITY AND PERFORMS TASKS
112

FIG. 4

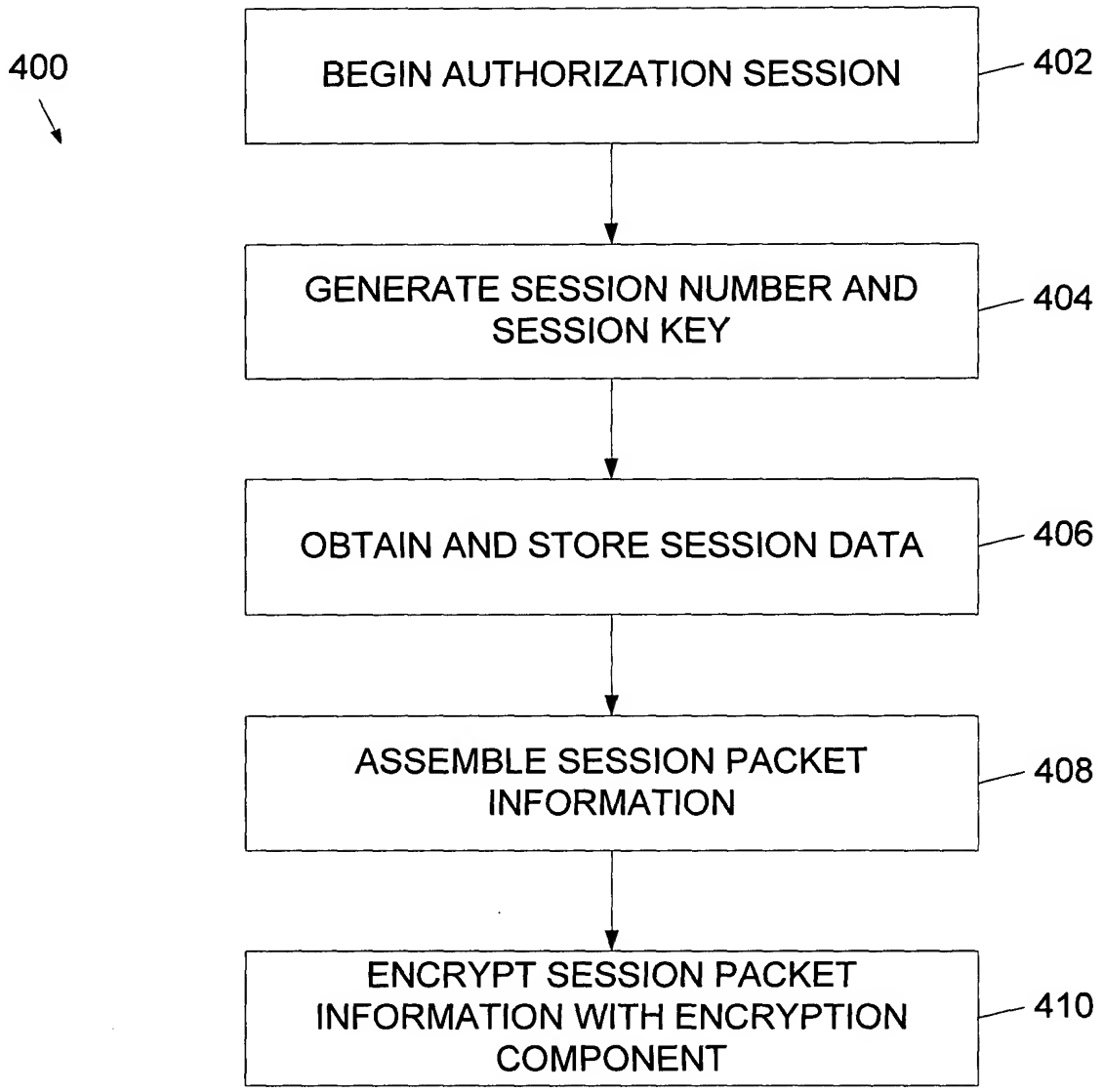
400
BEGIN AUTHORIZATION SESSION
402
GENERATE SESSION NUMBER AND SESSION KEY
404
OBTAIN AND STORE SESSION DATA
406
ASSEMBLE SESSION PACKET INFORMATION
408
ENCRYPT SESSION PACKET INFORMATION WITH ENCRYPTION COMPONENT
410

FIG. 5

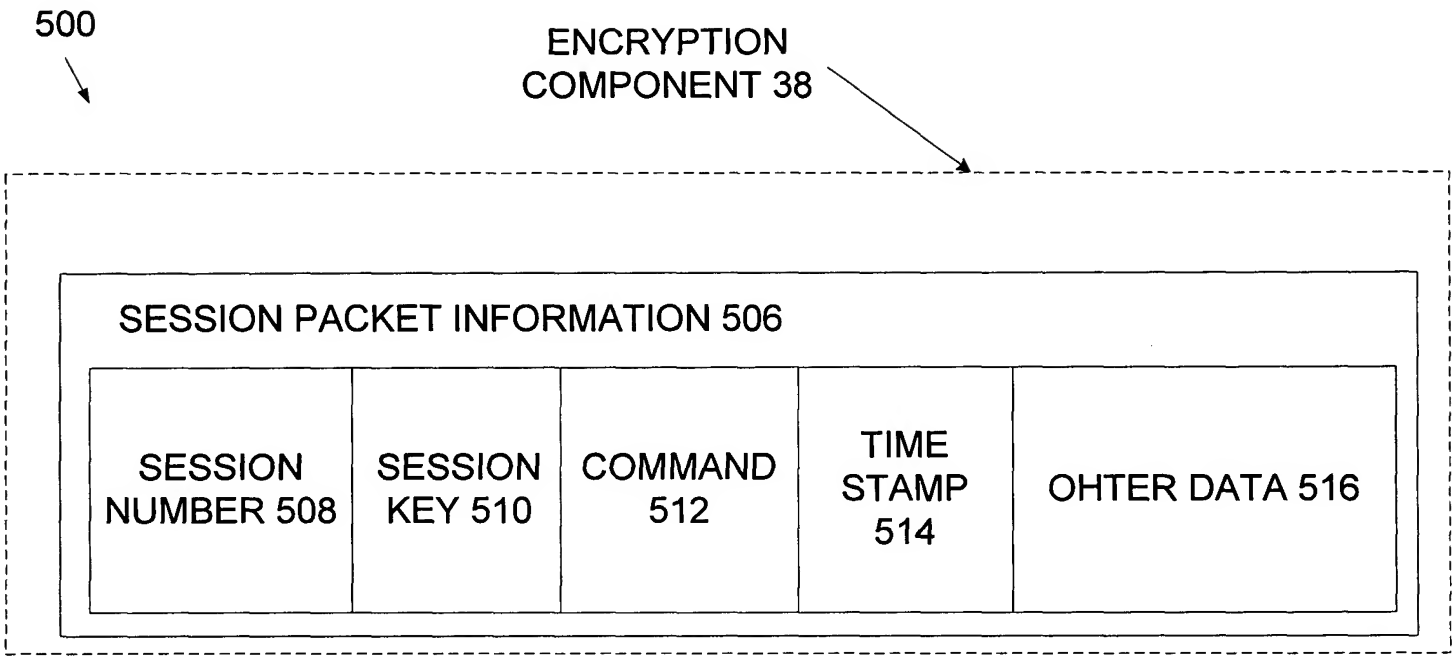
500
ENCRYPTION COMPONENT 38
SESSION PACKET INFORMATION 506
SESSION NUMBER 508
SESSION KEY 510
COMMAND 512
TIME STAMP 514
OHTER DATA 516

FIG. 6

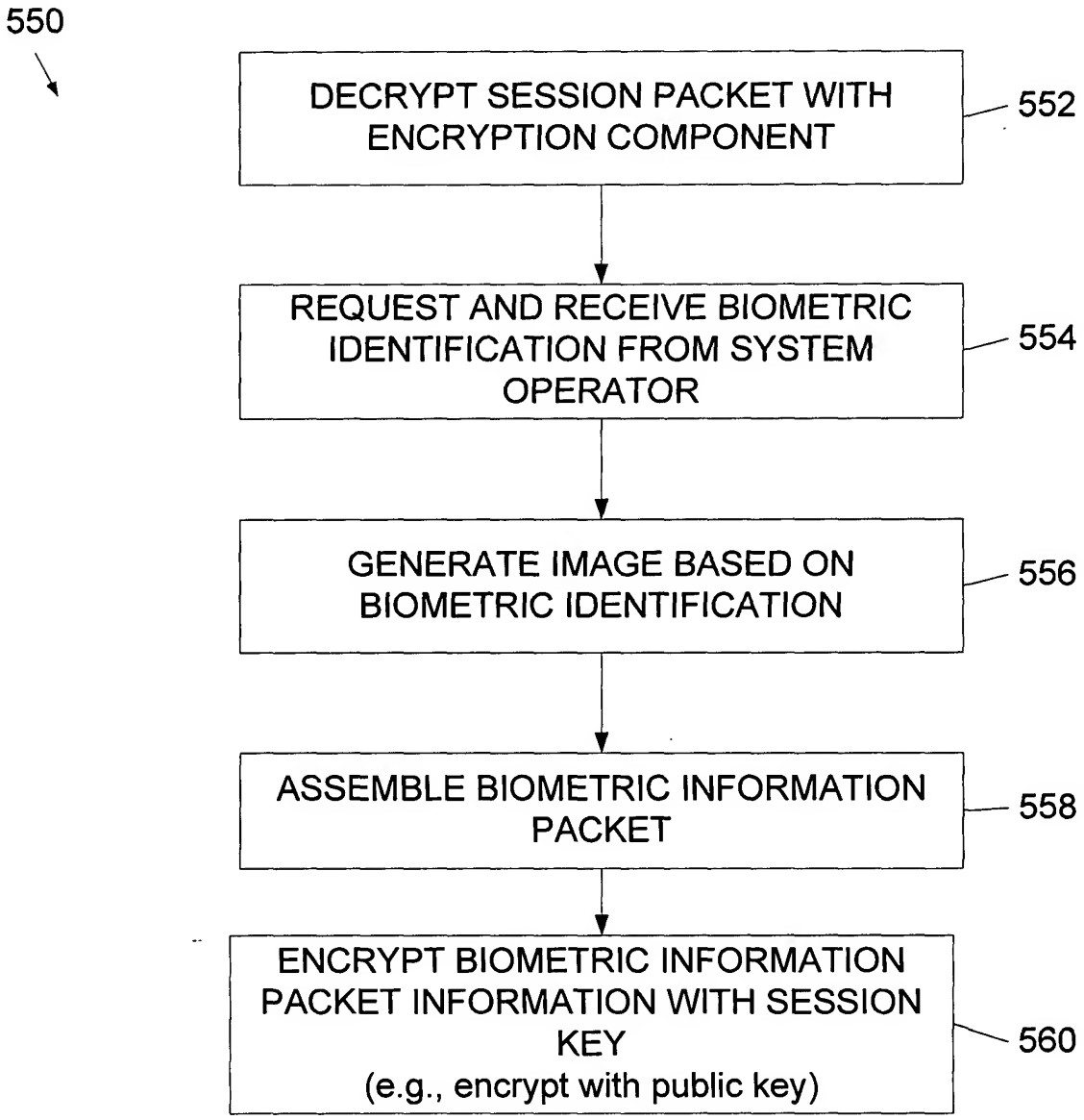
550
DECRYPT SESSION PACKET WITH ENCRYPTION COMPONENT
552
REQUEST AND RECEIVE BIOMETRIC IDENTIFICATION FROM SYSTEM OPERATOR
554
GENERATE IMAGE BASED ON BIOMETRIC IDENTIFICATION
556
ASSEMBLE BIOMETRIC INFORMATION PACKET
558
ENCRYPT BIOMETRIC INFORMATION PACKET INFORMATION WITH SESSION KEY
(e.g., encrypt with public key)
560

FIG. 7

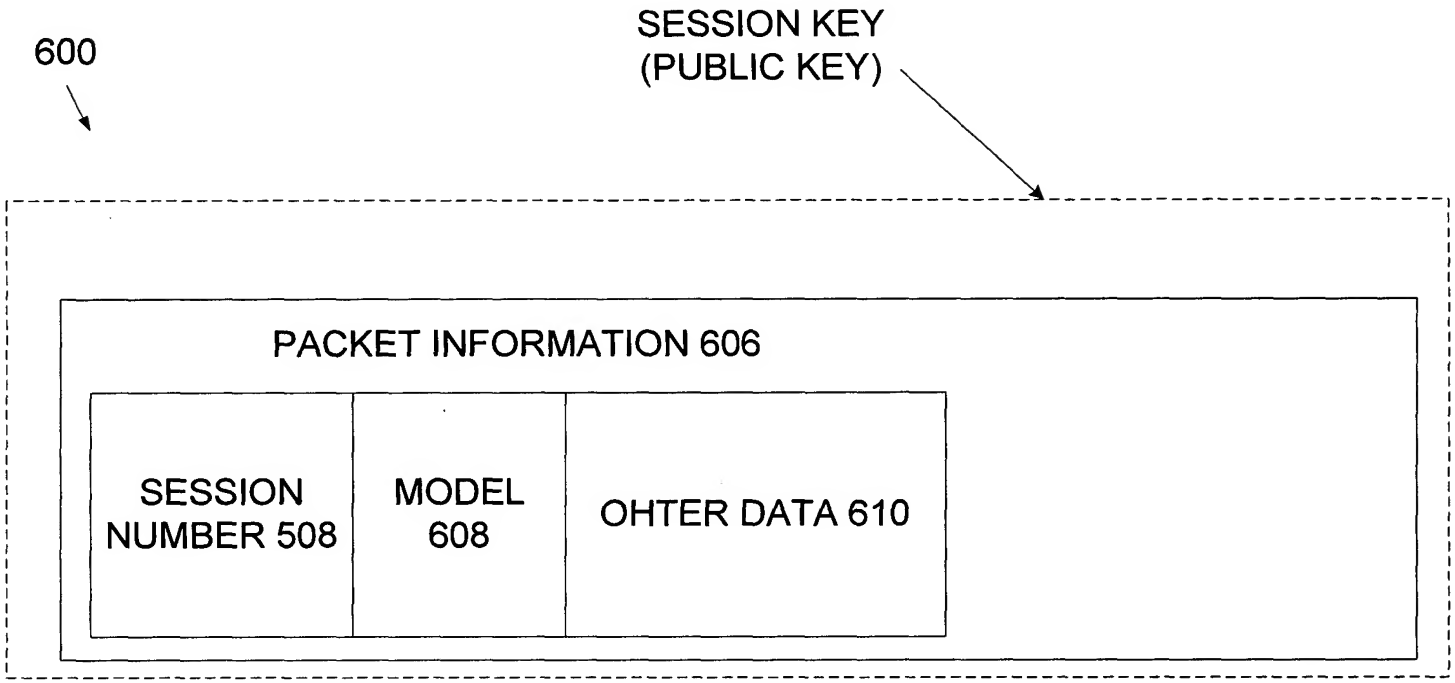
600
SESSION KEY
(PUBLIC KEY)
PACKET INFORMATION 606
SESSION NUMBER 508
MODEL 608
OHTER DATA 610

FIG. 8

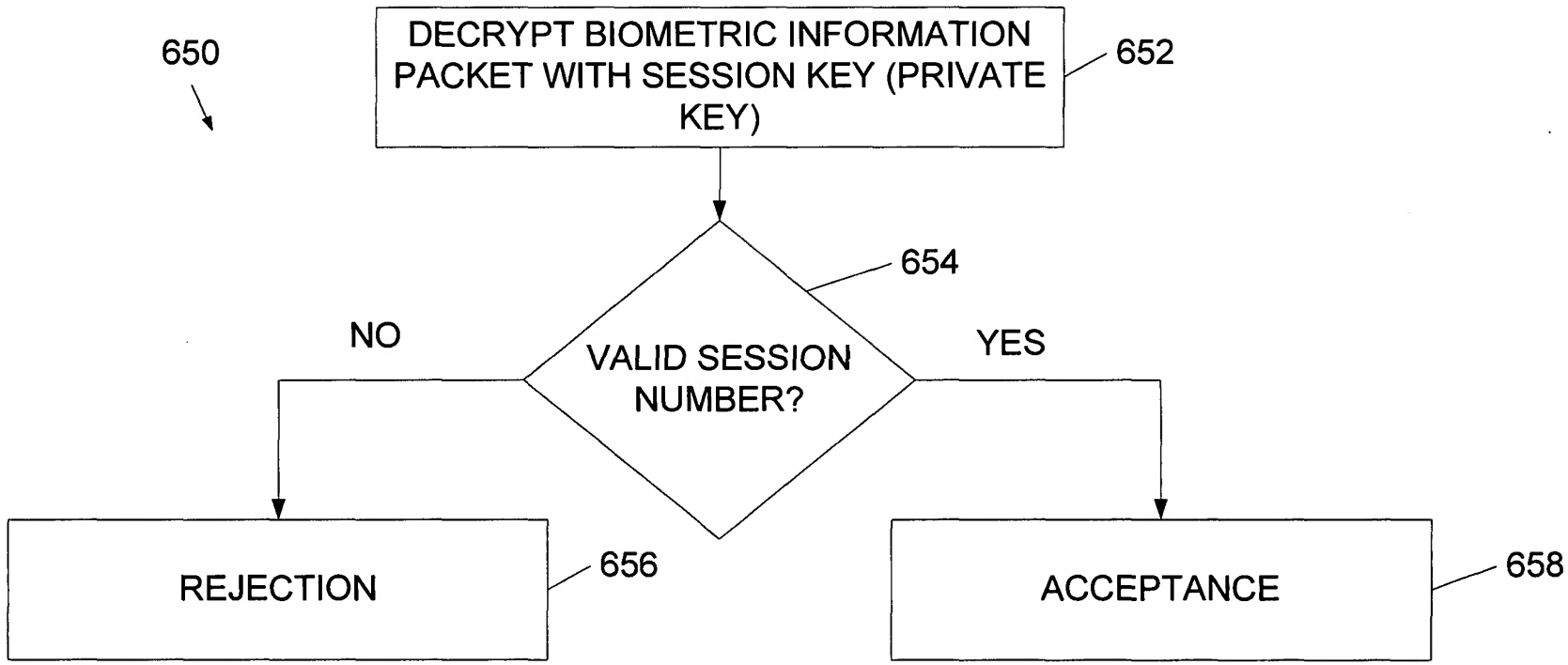
650
DECRYPT BIOMETRIC INFORMATION PACKET WITH SESSION KEY (PRIVATE KEY)
652
654
VALID SESSION NUMBER?
NO
YES
REJECTION
656
ACCEPTANCE
658

FIG. 9